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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/659,337	09/11/2003	Hitoshi Haematsu	020721A	7094

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EXAMINER

PERKINS, PAMELA E

ART UNIT	PAPER NUMBER
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2822

DATE MAILED: 09/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/659,337

Applicant(s)

HAEMATSU, HITOSHI

Examiner

Pamela E. Perkins

Art Unit

2822

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 June 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

This office action is in response to the filing of the amendment on 17 June 2005.

Claims 1-4 are pending.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harumi (JP 61019154) in view of Hajime (JP 08107120).

Harumi discloses a manufacturing method of a semiconductor device where an electrode is formed on a front face of a semiconductor chip (4); covering the front face the semiconductor chip (4) with a resin insulating film (1); and covering all of an upper surface and side surfaces the resin insulating film (1) with a metal protective film (9) (constitution). Harumi does not disclose forming a plurality of electrodes and providing an electrical connecting portion of at least any of the plurality of electrodes at a reverse face of the semiconductor chip and exposing one of the plurality of electrodes from the upper surface be connected to the metal protective film.

Hajime discloses a manufacturing method of a semiconductor device where a plurality of electrodes (11, 12, 13) are formed on front face of a semiconductor chip; covering the front face of the semiconductor chip with a metal protective film (15),

wherein a space (19) is left between the front face of the semiconductor chip and the metal protective film (15); and providing an electrical connecting portion of at least any of the plurality of electrodes (13) at a reverse face of the semiconductor chip (para. 22).

Since Harumi and Hajime are both from the same field of endeavor, a manufacturing method of a semiconductor device, the purpose disclosed by Hajime would have been recognized in the pertinent art of Harumi. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Harumi by forming a plurality of electrodes and providing an electrical connecting portion of at least any of the plurality of electrodes at a reverse face of the semiconductor chip as taught by Hajime to operate the circuit with stability and reduce production cost (para. 4).

Referring to claim 2, Harumi discloses forming a metal layer (2) on a peripheral isolation region on front face the semiconductor chip when covering the side surface of peripheral the resin insulating film (1) with the metal film (9) (constitution).

Referring to claim 3, Hajime discloses exposing one of the plurality of electrodes (12) from the upper surface be connected to the metal protective film (15) (para. 23).

Referring to claim 4, Harumi discloses the metal protective film (9) comprising an upper surface protecting film covering an upper surface of the resin insulating film (2) and a side surface protecting film covering a side surface of the resin insulating film (2) (constitution).

***Response to Arguments***

Applicant's arguments filed 17 June 2005 have been fully considered but they are not persuasive. As stated above, Harumi in view of Hajime disclose the method of manufacturing a semiconductor device as described in claim 1.

In response to the applicant's arguments, the applicant argues Hajime cannot be combined with Harumi because Hajime teaches a space between the covered integrated circuit and the metal layer. However, applicant does not claim the metal layer is in contact with the resin.

***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pamela E. Perkins whose telephone number is (571)


Art Unit: 2822

272-1840. The examiner can normally be reached on Monday thru Friday, 8:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amir Zarabian can be reached on (571) 272-1852. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PEP



AMIR ZARABIAN  
EXAMINER  
571-273-8300